

REMARKS

Reconsideration of the application is respectfully requested.

I. Status of the Claims

Claims 1, 5-7 and 9-14 are presently pending, with claims 2 - 4, , 8 and 15-17 having been previously canceled without prejudice or disclaimer

Claims 1, 5, 7, 14 and 18 are amended without the introduction of new matter.

II. Objection to the Specification

The Examiner finds that the substitute specification filed on November 13, 2006 fails to comply with 37 C.F.R. § 1.121. Specifically, the Examiner finds that the substitute specification does not reflect the amendments made in the substitute specification of March 14, 2006, and does not correct certain errors in this substitute specification. In addition, the Examiner objects to the length and scope of the Summary of the Invention.

In response, a revised substitute Specification is attached with the present response. The substitute Specification complies with 37 C.F.R. § 1.121, first paragraph, and addresses each of the objections raised by the Examiner.

Accordingly, Applicants respectfully request that the objection to the specification be withdrawn.

III. Objections to the Claims

Claims 1, 5 - 7, 9-14, and 18 were objected to because of various informalities. Specifically, the Examiner points to redundant language in claims 1, 7 and 14, and other in formalities and in claims 1 and 5. Applicants amend claims 1, 5, 7 and 14 to address the informalities, and respectfully request that the objections to claims 1, 5 - 7, 9-14, and 18 be withdrawn.

IV. Rejections under 35 U.S.C. §112

Claim 18 is rejected under 35 U.S.C. §112, first paragraph. Specifically, the Examiner finds that the subject matter of claim 18 as claimed does not reflect the subject matter as disclosed in the specification. The Examiner makes reference to the original specification, which at page 27, lines 13 - 20 states:

Fig. 7 is a sectional cross section of a part of the interlabial pad 1 in the lateral direction taken out from the interlabial pad 1 for specifically describing the whole girth inside the second finger insertion opening 19B". In Fig. 7, the part unnecessary for describing the length of "the whole girth inside the second finger insertion opening 19B" is shown by an alternate long and short dash line. "The whole girth inside the second finger insertion opening 19B" is a distance denoted by "L" in Fig. 7.

The whole girth inside the above-described second finger insertion opening 19B is preferable to be 30 to 120 mm, and more preferable to be 40 to 80 mm.

Applicants submit, and the Examiner acknowledges, that the term "the whole girth" is synonymous with the term "circumference." Claim 18 is amended to recite:

18. The interlabial pad according to claim 5, wherein a circumference inside the finger insertion opening formed between the backing sheet of the sub-sheet body and a surface of the mini sheet piece that faces the backing sheet of the sub-sheet body is within a range of 40 mm to 80 mm.

Applicants submit that the language of amended claim 18 is consistent in scope with the disclosure of the original specification at page 27, lines 13 - 20, and respectfully request that the rejection of claim 18 under 35 U.S.C. §112, first paragraph, be withdrawn.

Claims 1, 5 - 7, 9 - 14 and 18 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner finds that claims 1 and 14 include certain language that is unclear. Applicants amend claims 1 and 14 in view of the Examiner's findings, and submit that amended claims 1 and 14 are clear. Accordingly, Applicants respectfully request that the rejection of claims 1, 5 - 7, 9 - 14 and 18 under 35 U.S.C. §112, second paragraph, be withdrawn.

V. Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 1, 5 - 7, 9 - 14 and 18 "as best understood ... patentably distinguish over the prior art."


CONCLUSION

In view of the above amendments, Applicants believe the pending application is in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

The Examiner is respectfully requested to contact the undersigned at the telephone number indicated below once he has reviewed the proposed amendment if the Examiner believes any issue can be resolved through either a Supplemental Response or an Examiner's Amendment.

Dated: May 23, 2007

Respectfully submitted,

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Attachments: Clean and Marked-Up Copies of substitute Specification

Marked-Up Copy
SPECIFICATION
INTERLABIAL PAD

Cross-reference to Related Applications

This application is a Continuation of International Application No. PCT/JP02/04891 filed May 21, 2002, which application published in Japanese on Nov. 28, 2002 as WO 02/094155 A1 under PCT Article 21(2).

Background of the Invention

Technical Field

The present invention relates to an interlabial pad which can be worn closely fitted into between the labia.

Background Art

Conventionally, a sanitary napkin and a tampon are used generally as sanitary products for the female. Here, there have been great efforts to prevent the leak of blood from gap caused by poor adhesion near the ostium vaginae as for the sanitary napkin. Moreover, as for the tampon, there have been great efforts for relieving the foreign feeling and the discomfort when wearing it and intervaginal fixing trouble due to the nature of the product.

Under such situation, a sanitary product of an interlabial pad has attracted people as a sanitary product featured between the sanitary napkin and the tampon in recent years.

On the other hand, Japan Utility Model Hei 5-18523 (see Fig. 25, which corresponds to Fig. 1 in this Specification) discloses a sanitary napkin, in which an area projected from other area is provided by collectively providing an absorbent body in the central portion of the surface which is brought into contact with the body of a wearer as the product improving the contact state between the sanitary napkin and the body. In the configuration of the sanitary napkin, the projected area is inserted between the labia so that the contact state is improved compared to an ordinal sanitary napkin.

However, in the napkin as described, it is difficult to bring the projected area of

the sanitary napkin to a predetermined position. In other words, it is necessary for the wearer to lead skillfully the projected area of the improved sanitary napkin as described above to the predetermined position between the labia by an action of wearing an underwear since the sanitary napkin is fixed to the underwear whereby the napkin is fitted to a body by bringing up the fixed napkin together with the underwear. While wearing the underwear, leading the projected area of the sanitary napkin to the predetermined position is indirect from wearing so that it is more difficult to control it and less precise to put the napkin on the right spot. Also, the projected area is formed by increasing the thickness of the absorbent body, which may cause the wearer to have a strong foreign feeling depending on the thickness.

Although the projected area like that in the example of the related art is not provided, the above-described interlabial pad can obtain the same contact state as the related art may have because of the nature of the product, which is to insert the product between the labia.

However, the interlabial pad is to be put between the labia where is hard to be viewed so that it is not easy to wear it. In addition, if the interlabial pad is not put onto the right position, a great deal of blood leak may cause damages since it is smaller than a sanitary napkin.

Furthermore, the interlabial pad is directly fitted between the labia so that the contact state with the body is easily influenced by the shape of the labia of the wearer. Therefore, it is necessary that the pad be appropriately fitted to any individuals of difference.

The present invention has been designed to overcome the foregoing problems. An object of the present invention is to provide an interlabial pad which can be worn with close contact state by any wearer who has different shapes in her labia, in particular, deep or shallow labia and which has a configuration so as to achieve sure and sanitary wear.

Summary of the Invention

In order to solve the foregoing problems, an interlabial pad according to the present invention is characterized in that is provided with a finger insertion opening is ~~provided to the pad~~ so that ~~[[it]]~~ the pad can be fitted by ~~skillfully operating a finger on~~

~~using the sensitive finger cushion of a finger. and that~~ Further, the pad is provided with two choices ~~in the finger insertion opening openings to be used~~ in accordance with a depth of her labia. More specifically, ~~according to the present invention,~~ the interlabial pad is ~~characterized by having~~ provided with a first finger insertion opening formed between a main sheet body and a sub-sheet body ~~of the pad,~~ and a second finger insertion opening formed between the sub-sheet body and a mini sheet piece ~~of the pad.~~

~~According to More specifically,~~ the present invention, ~~provides the following.~~

~~An~~ an interlabial pad, which is with a size capable of being inserted between female labia without forcing ~~the pad,~~ ~~comprising:~~ includes a main sheet body ~~composed of having~~ a water permeable surface sheet facing a body side, and either a water permeable or non-permeable back side sheet facing an opposite side of the body side. ~~[[, the]]~~ The main sheet body ~~containing~~ has an absorbent body for absorbing body liquid. ~~[[, the]]~~ The absorbent body ~~[[being]]~~ is enclosed by and between the surface sheet and the back side sheet. ~~[[, the]]~~ The surface sheet and the back side sheet ~~[[being]]~~ is bonded to each other. ~~[[; and]]~~

The interlabial pad also includes a sub-sheet body ~~composed of having~~ a water permeable surface sheet ~~positioned at facing~~ the body side, and either a water permeable or non-permeable back side sheet facing a ~~clothes garment~~ side. ~~[[, the]]~~ The sub-sheet body ~~containing~~ has an absorbent body for absorbing liquid. ~~[[, the]]~~ The absorbent body ~~[[being]]~~ is enclosed by and between the surface sheet and the back side sheet. ~~[[, the]]~~ The surface sheet and the back side sheet ~~[[being]]~~ is bonded to each other. ~~;-wherein said~~

Further the main sheet body ~~comprises~~ has a long convex area formed along the longitudinal direction of the surface side sheet so that a substantial center area of the surface sheet in a lateral direction is convexly formed ~~[[convex]]~~ towards the body side.

In the interlabial pad according to the present invention, the sheet body including an absorbent body has a dual structure formed with a main sheet body and a sub-sheet body so that blood which has not been absorbed into the main sheet body is absorbed into the sub-sheet body. Therefore, the structure is more effective in preventing blood leakage compared to an interlabial pad with a single structure having the same amount of absorbent body. In addition, since there is a long convex area provided on the surface of the main sheet body, ~~[[such]]~~ thr long convex area may be ~~[[is]]~~ inserted between the

labia ~~preventing the gap generated to prevent a gap from being created~~ between the labia and the interlabial pad. As a result, blood leakage caused by such a gap can be decreased.

~~In regards to this, an~~ Contrarily, a conventional interlabial pad surface, which is in the related art to be in contact with the body, is so flat that the surface ~~to be in contact with the body~~ cannot be closely fitted between the labia because of their concave shape. Therefore, it is possible to have a gap between the labia surface and the interlabial pad such that liquid leakage through the gap may occur. Also, since the sheet body of a conventional interlabial pad is a single structure, it may not have enough absorbing property.

However, in the present invention, the main sheet body facing the body side ~~comprises~~ has a long convex area, which can be inserted between the labia. Therefore, a gap between the labia surface and the interlabial pad can be ~~drastically~~ effectively decreased. Furthermore, the sheet body has a dual structure so that the blood absorbing capacity is improved.

[[(2)]] In an [[another]] implementation of an interlabial pad according to the present invention, the main sheet body and the sub-sheet body are directly bonded at each adjacent peripheral edge, and are not directly bonded over an area extending from an inner side of the peripheral edge [[to]] toward inside of the main sheet and sub-sheet bodies.

~~In the interlabial pad according to an implementation of the present invention, the main sheet body and the sub-sheet body are bonded only at each peripheral edge and are not bonded (non-stuck) in some area from the inner peripheral edge to the inside.~~ Accordingly, the main sheet body and the sub-sheet body are separated in the middle area so that one of the sheet bodies is not deformed in a similar shape when the other is deformed. In other words, with this structure, deformation of one sheet body [[is]] does not ~~transmitted~~ affect to a shape of the other sheet body.

Here, since both sheet bodies are bonded at the peripheral edges, there may be deformation ~~generated in accordance with~~ created due to the bonded state. Specifically, if a wearer having [[the]] labia of a depth more than the height of the long convex area, the long convex area and ~~surroundings~~ portions of the main sheet body facing the body side, which surrounds the long convex area, together form a long convex area with a height

inserted.

~~When both sleeve portions of the main sheet body and the sub-sheet body are non-bonded in the lateral direction, space for finger insertion makes a through-hole (like a tunnel); and, when When one of the sleeve portions is bonded, space for finger insertion makes a like cave with a closed end.~~

~~In an implementation of the present invention, "side portion" of the main sheet body or the sub-sheet body in the longitudinal direction includes not only the area corresponding to the peripheral edge of the interlabial pad but also some area surrounding the peripheral edge where the main sheet body and the sub-sheet body can be bonded.~~

~~In the interlabial pad according to the present invention as described, since the main sheet body and the sub-sheet body are bonded to form the finger insertion opening connected to space for finger insertion, the interlabial pad can be temporarily fixed to a fingertip by inserting a finger into the finger insertion opening.~~

~~Then, when a finger is inserted, a fingerprint side of a fingertip from the first joint, where many receptors having a keen sense are scattered can be brought into contact with an opposite face on the back side sheet from the body side face of the main sheet body. The long convex area having an absorbing spot can be precisely led to the ostium vagina of a concave shape by moving the interlabial pad in contact with concave or convex surface structures of the labia. As described, in accordance with the present invention, the interlabial pad can be easily and precisely worn between the labia.~~

~~After wearing, since each surface, between which the top of the long convex area is located, collapses inwards so as to fill the space inside the long convex area, the foreign feeling at the time of wearing the interlabial pad can be drastically diminished.~~

~~According to an implementation of an interlabial pad, the main sheet body comprises a plurality of main sheet bodies, each of which are bonded together at each longitudinal side edge, and at least either sleeve portion in the lateral is non-bonded so as to form a finger insertion opening, in which a finger can be inserted.~~

~~In the interlabial pad according to the present invention, there are a plurality of main sheet bodies so that a finger insertion opening is formed between each of the main sheet bodies. Therefore, a wider selection of finger insertion openings can be provided when a wearer inserts a finger such that the wearer can wear the interlabial pad~~

comfortably according to her labia depth. If absorbent bodies are contained respectively in a long convex area and extended areas of a first main sheet body facing the body side, and if absorbent bodies are contained only in long convex areas of a second and third main sheet bodies positioned on the opposite side from the body side, the interlabial pad which does not give a foreign feeling to the wearer can be provided while the menstrual blood absorbance efficiency near the ostium of vagina is improved.

According to an implementation of an interlabial pad, a mini sheet piece is fixed on the back side sheet of the sub-sheet in the clothes side, and the mini sheet piece forms a finger insertion opening between the back side sheet and the mini sheet piece.

In the interlabial pad according to the present invention as described, the first finger insertion opening and a first finger insertion space connected thereto are formed between the main sheet body and the sub-sheet body, and the second finger insertion opening and a second finger insertion space connected thereto are formed between the sub-sheet body and the mini sheet piece. A wearer having her labia of shallow depth can insert her finger into the first finger insertion opening towards the first finger insertion space, and, while she makes her finger cushion touch the opposite side face from the body side face of the back surface side sheet of the main sheet body, lead the long convex area towards the inside between the labia. As a result, only a part of the long convex area, which can be inserted between the labia, can be fitted between the labia.

On the other hand, a wearer having her labia of deep depth can insert her finger into the second finger insertion opening toward the second finger insertion space, and, while she makes her finger cushion touch the opposite side face from the body side face of the back surface side sheet of the sub-sheet body, properly lead the long convex area towards the inside between her labia. Thereby, the whole long convex area can be fitted between the labia.

As described, in an implementation of the present invention, the interlabial pad has two kinds of finger insertion openings so that the wearer can provide the interlabial pad suitable for her own labia depth by selecting either finger insertion opening according to the size of her labia when she wears the interlabial pad. Furthermore, a manufacture does not have to make various types of interlabial pads corresponding to individual differences in the labia depth.

The above-described interlabial pad according to an implementation of the present invention can be made more applicable to different labia shapes of different individuals if more flexible materials are used to enable the pad to be easily deformed.

According to another implementation of an interlabial pad, the long convex area is formed with a shorter top length than a bottom length in the longitudinal direction; and wherein the sleeve opening is formed with both side edges sloped from a bottom to a top.

In the interlabial pad according to an implementation of the present invention, the longitudinal length at the top of the long convex area is shorter than that at the bottom. In other words, the entrance opening of a long hollow space formed under the long convex area, that is, the finger insertion opening formed between the main sheet body and the sub-sheet body, is formed with its both edges sloped from the bottom towards the top that has a shorter length than the bottom. Accordingly, the finger insertion opening is to be provided wider compared to the case where the finger insertion opening is simply formed perpendicular to the main sheet body. Therefore, compared to a finger insertion opening with simply vertical edges to the main sheet body, the finger insertion opening according to the present invention is larger. If both side edges of another finger insertion opening are formed sloping from the top having longer length towards the bottom as opposed to the present invention, a finger insertion into the opening may be blocked by the main sheet body. As described, according to the present invention, a smooth and easy finger insertion can be achieved.

Furthermore, by shortening the top of the long convex area, the contact area of the opposite side face from the body side face of the back side sheet of the main sheet body with the finger cushion of the inserted finger may be decreased when the finger is inserted. Thereby, the friction drag generated between the finger cushion and the inner wall of the long convex area can be decreased such that it can be prevented that the just-set interlabial pad is deviated when the finger is pulled out from the finger insertion opening formed inside the long convex area after the interlabial pad is worn between the labia.

According to an implementation of an interlabial pad, the long convex area is formed with a shorter top length than a bottom length in the longitudinal direction; and wherein the sleeve opening is formed with both side edges sloped from a bottom to a top.

In the interlabial pad according to an implementation of the present invention, the lateral cross section of the finger insertion opening and space inside the long convex area is substantial triangular so that it can be easily fitted to the finger inserted to the finger insertion opening and space. As a result, since the interlabial pad is firmly held by the finger inserted inside the long convex area, it is easier to locate the wearing point.

Also, when wearing an interlabial pad with a long convex area, the long convex area is fitted between the labia so that the labia majora and the labia minora on right and left sides, which usually are closed in contact with each other, are slightly opened. However, since the lateral cross-sectional area of the long convex area is formed substantially triangular with the top corner fitted to the inmost part of the labia in accordance with the present invention, the surface side sheet is brought into contact with any portions inside the labia minora. Hence, the above-described long convex area, which is capable of absorbing blood, can be closely fitted between the labia of the wearer without a gap so that a function to prevent menstrual blood leakage can be further improved as well as ease in wearing as described above.

The height of the substantial triangle is preferable to be about 5 to 30 mm, and more preferable to be about 10 to 20 mm. If the height is longer than 30 mm, a gap is easily generated between the substantially flat area of the surface side sheet of the main sheet body and the surface of the pudenda, which may cause leakage of menstrual blood through the gap. Also, if the height is shorter than 5 mm, the long convex area on the main sheet body can not be sufficiently fitted between the labia. Since the contact area with the labia is decreased, it may be more likely for the product to fall off the labia. In addition, the average value of the labia depth of pudenda among Japanese female is about 17 mm so that the more preferable range is from 10 to 20 mm.

The length of the bottom edge of the substantial triangle of the long convex area in the width direction is preferable to be about 1 to 20 mm and more preferable to be about 2 to 10 mm. If the length is longer than 20 mm, the top corner of the substantial triangle becomes too obtuse so that it may be hard to fit the long convex area between the labia of the female pudenda at the time of wearing the pad. Therefore, it is more likely that wearing becomes troublesome or that a fitted pad may shift from the right position. Also, if the length is shorter than 1 mm, the top corner of the substantial triangle becomes

~~sanitary napkin-coexisting interlabial pad that is used together with a sanitary napkin.~~

~~In the interlabial pad according to an implementation of the present invention as described, even if it is used together with a sanitary napkin, a negative effect on the wear feeling may not arise and it may be less likely to suffer from rash or stuffy feeling.~~

~~In other words, some sanitary napkin users use several pieces of napkins layered together when they have a large quantity of menstrual blood. However, they may feel uncomfortable because of stiffness of the napkins, which further affect the external appearance. Also, the layered sanitary napkins are put on one after another even near the ostium vaginae where the layered napkins are not needed, which causes rash and stuffy feeling.~~

~~In this respect, with an implementation of the present invention, the sanitary product is layered only on the labia and its surroundings so that there is not a negative effect on the wear feeling and the external appearance. Also, rash and stuffy feeling in the buttock and its surroundings can be decreased.~~

~~Furthermore, in the case of replacement, it is possible to change only the interlabial pad without changing the sanitary napkin according to the present invention. Therefore, the wearer does not have to carry around the sanitary napkins which are large enough to be noticed. The sanitary napkins herein may include an absorption sheet for vaginal discharge as well as a napkin sold for absorbing menstrual blood.~~

~~(12) According to still another implementation of an interlabial pad, the interlabial pad includes an incontinent interlabial pad for incontinence.~~

~~According to an implementation of the interlabial pad, the pad can be used for incontinence absorb pad. Since both ostium vaginae where the menstrual blood is discharged and urethral meatus where urine is discharged are located between labia, the interlabial pad of the present invention may be used between labia to absorb urine.~~

~~As described hereinbefore, the pad of an implementation of the present invention can absorb urine around labia, especially around the urethral meatus and is useful for the absorbing pad for incontinence, especially for a light incontinence.~~

~~(13) According to another implementation of an interlabial pad, the interlabial pad comprises a vaginal discharge interlabial pad for absorbing vaginal discharge.~~

~~In accordance with an implementation of the present invention, the interlabial pad~~

can be used for the pad of absorbing the vaginal discharge. The interlabial pad is used by being inserted between labia and can absorb the excretion (vaginal discharge) other than the menstrual blood from ostium vaginae (for absorbing the vaginal discharge).

As described above, since the pad can absorb the vaginal discharge in order to decrease the wearer's discomfort, it is useful for the user who is not menstruating.

(14) A wrapping body includes a wrapping container containing the interlabial pad where the interlabial pad is contained in the wrapping container for individual wrapping.

According to an implementation of the present invention, each interlabial pad may be wrapped individually so that an individually wrapped interlabial can be carried independently for use. Hence, as opposed that a plurality of the interlabial ~~[[pad]] pads~~ are wrapped in the same wrapping container, it is cleaner and more convenient to handle each pad.

A wrapping body includes a wrapping container the interlabial pad where the interlabial pad is contained for individual wrapping in an orthogonal direction to the wrapping container.

According to an implementation of the present invention, the interlabial pad is wrapped without being aligned to the wrapping container. Therefore, the wrapping body is formed so that the first finger insertion opening formed between the main sheet body and the sub-sheet body and the second finger insertion opening formed by the mini sheet piece are to be opened towards the wearer when the wearer opens the wrapping container. Therefore, the wearer's opening direction and finger insertion direction can be made in the same direction so that the wearer can insert the finger easily.

Furthermore, by changing the folding state of the interlabial pad to be wrapped or by indicating the opening direction through drawing a design or character, the wearer can easily select a finger insertion opening according to her own labia depth even if the interlabial pad is individually wrapped according to the present invention.

A wrapping body includes a wrapping container containing the interlabial pad where the interlabial pad is contained for individual wrapping in the wrapping container, ~~[[;]]~~ and a tear opening portion of the container is indicated by a picture or a character.

According to an implementation of the present invention, the positions of the first

~~finger insertion opening formed between the main sheet body and the sub-sheet body, and the second finger insertion opening formed by the mini sheet piece can be recognized at a glance without opening the wrapping container. Therefore, the wearer can perform finger insertion to the proper finger insertion opening more easily according to her own labia depth.~~

~~In this case, through providing the above-described design and character with the house mark or the company name, in addition to the above-described effect (indication of the finger insertion opening), an advertisement effect and a quality assurance effect can be expected.~~

Brief Description of the Drawings

Fig. 1 is a schematic perspective view showing the top face (body side surface) of an interlabial pad according to the embodiment;

Fig. 2 is a schematic perspective view showing the bottom face (opposite side surface to body) of the interlabial pad according to the embodiment;

Figs. 3(A) and (B) illustrate the interlabial pad according to the embodiment to which a plurality of mini sheet pieces are attached;

Fig. 4 is a cross section of the interlabial pad according to the embodiment taken along the line I - I shown in Fig. 1;

Fig. 5 is an explanatory illustration for describing a long convex area of the interlabial pad according to the embodiment;

Fig. 6 is an explanatory illustration for describing that the lateral cross sectional areas of the hollows on both edges of the long convex area are different;

Fig. 7 is an explanatory illustration for describing the whole girth inside a second finger insertion opening of the mini-sheet attached to the interlabial pad according to the embodiment;

Fig. 8 is an illustration showing the state where the mini sheet piece attached on the interlabial pad according to the embodiment has a length of 10% or more in the longitudinal direction;

Figs. 9 (A)-(C) illustrate the unbonded position in the back surface side of the mini sheet piece attached on the interlabial pad according to the embodiment;

Figs. 10(A)-(D) illustrate cross-sectional drawings of the attachment position of

Since only left and right side edges of the main sheet body and the sub-sheet body are bonded to each other, respectively, in the longitudinal direction, a long hollow space is formed between the main sheet body and the sub-sheet body under the long convex area formed on the main sheet body. This long hollow space provides a finger insertion space where a finger can be inserted.

When both sleeve portions at two ends of the main sheet body and the sub-sheet body in the longitudinal direction are not closed by bonding in the lateral direction, a space for a finger insertion forms a through hole (like a tunnel). When one of the sleeve portions is closed by bonding, the space for the finger insertion forms a cave-like space with a closed end.

In an implementation of the present invention, a "side portion" of the main sheet body or the sub-sheet body in the longitudinal direction is intended to include not only the area corresponding to the peripheral edge of the interlabial pad, but also additional area surrounding the peripheral edge where the main sheet body and the sub-sheet body can be bonded.

In the interlabial pad according to the present invention as described, since the main sheet body and the sub-sheet body are bonded to each other to form the finger insertion opening connected to the space for the finger insertion, the interlabial pad can be temporarily fixed to a fingertip by inserting a finger into the finger insertion opening.

Then, when a finger is inserted, a fingerprint side of a fingertip from the first joint, where many receptors having a keen sense are scattered, can be brought into contact with a face on the back side sheet opposite to the body side face of the main sheet body. An absorbing spot on the long convex area can be precisely positioned near the ostium vagina of a concave shape by moving the interlabial pad in contact with concave or convex surface structures of the labia. As earlier described, in accordance with the present invention, the interlabial pad can be easily and precisely worn between the labia.

Over the course of wearing, each surface of the long convex area between which the top of the long convex area is located collapses inwardly so as to fill the space inside the long convex area, so that the foreign feeling to the wearer at the time of wearing the interlabial pad can be drastically diminished.

According to another implementation of an interlabial pad in accordance with the

kinds of finger insertion openings so that the wearer can provide the interlabial pad suitable for her own labia depth by selecting an appropriate one of the two finger insertion openings. As a result, a manufacture does not have to make various types of interlabial pads corresponding to individual differences in the labia depth.

According to an implementation of an interlabial pad according to the present invention, the long convex area includes a bent portion formed by bending the main sheet body. This long convex area can be easily deformed by an external pressure.

Alternatively, if a ready-made projection is simply provided on the body side face of the interlabial pad, the projection may not necessarily fit all wearers as a result of individual differences in the shape of their labia. For example, if the labia depth of the wearer is more than the height of the projection, the projection can fill only a portion of the inside of the labia thereby leaving a space between the top of the projection and the ostium vaginae. On the other hand, if the labia depth of the wearer is less than the height of the projection, the whole projection cannot be inserted between the labia. In this case, if a projection with an unnecessary thickness is also to be inserted between the labia, a wear feeling is notably deteriorated.

To overcome this problem, in the interlabial pad according to the present invention, the long convex area provided on the main sheet body may be formed by merely bending the main sheet body itself so that it can easily deformed according to the labia depth of the wearer. Consequently, the interlabial pad can be used regardless of the differences in the labia depth of the wearers.

For example, when a wearer having a labia depth less than the height of the long convex area wears the pad, only the long convex area of the main sheet body is fitted between labia. The long convex area is formed by merely bending the main sheet body so that the portion which is not fitted between the labia can be flexibly deformed so as to correspond to the shape near the labia. This configuration provides a remarkably distinctive feel from configurations in which a ready-made projection is formed by laminating the absorbent bodies.

Also, for a wearer with a deep labia depth, the interlabial pad according to the present invention can be flexibly applied. For example, if the neighboring substantially flat area as well as the main sheet body is fitted between the labia, the interlabial pad does

firmly held by the finger inserted inside the long convex area, it is easier to locate the wearing point.

Also, when wearing an interlabial pad with a long convex area, the long convex area is fitted between the labia so that the labia majora and the labia minora on right and left sides, which usually are closed in contact with each other, are slightly opened. However, since the lateral cross sectional area of the long convex area is substantially triangularly formed, a top vertex is fitted to the inner-most part of the labia, and the surface side sheet is brought into contact with portions inside the labia minora. Hence, the above-described long convex area, which is capable of absorbing blood, can be closely fitted between the labia of the wearer without creating a gap so that a function to prevent menstrual blood leakage can be further improved as well as ease in wearing as described above.

The height of the substantial triangle is preferably about 5 to 30 mm, and more preferably about 10 to 20 mm. If the height is longer than 30 mm, a gap is easily created between the substantially flat area of the surface side sheet of the main sheet body and the surface of the pudenda, which may cause leakage of menstrual blood through the gap. Also, if the height is shorter than 5 mm, the long convex area on the main sheet body can not be sufficiently fitted between the labia. Since the contact area with the labia is decreased, it may be more likely for the product to fall off the labia. In addition, the average value of the labia depth of pudenda among Japanese female is about 17 mm, so that a more preferable range is from 10 to 20 mm.

The length of the bottom edge of the substantial triangle of the long convex area in the width direction is preferable to be about 1 to 20 mm and more preferable to be about 2 to 10 mm. If the length is longer than 20 mm, the top corner of the substantial triangle becomes too obtuse so that it may be hard to fit the long convex area between the labia of the female pudenda at the time of wearing the pad. Therefore, it is more likely that wearing becomes troublesome or that a fitted pad may shift from the right position. Also, if the length is shorter than 1 mm, the top corner of the substantial triangle becomes too acute so as to give a foreign feeling to the wearer when she uses the product.

In this respect, in an implementation of the present invention, the long convex area is formed within the preferable range so that the interlabial pad is formed to give the

more convenient to handle each pad.

A wrapping body according to the present invention includes a wrapping container for the interlabial pad in which the interlabial pad is contained for individual wrapping in an orthogonal direction to the wrapping container.

According to another implementation of the present invention, the interlabial pad is wrapped without being aligned to the wrapping container. Therefore, the wrapping body is formed so that the first finger insertion opening formed between the main sheet body and the sub-sheet body and the second finger insertion opening formed by the mini sheet piece are to be opened towards the wearer when the wearer opens the wrapping container. Therefore, the wearer's opening direction and finger insertion direction can be made in the same direction so that the wearer can insert the finger easily.

Furthermore, by changing the folding state of the interlabial pad to be wrapped or by indicating the opening direction through drawing a design or character, the wearer can easily select a finger insertion opening according to her own labia depth even if the interlabial pad is individually wrapped according to the present invention.

A wrapping body includes a wrapping container containing the interlabial pad, where the interlabial pad is contained for individual wrapping in the wrapping container, and a tear-opening portion of the container is indicated by a picture or a character.

According to another implementation according to the present invention, the positions of the first finger insertion opening formed between the main sheet body and the sub-sheet body, and the second finger insertion opening formed by the mini sheet piece can be recognized at a glance without opening the wrapping container. Therefore, the wearer can perform finger insertion to the proper finger insertion opening more easily.

In this case, through providing the above-described design and character with the house mark or the company name, in addition to the above-described effect (indication of the finger insertion opening), an advertisement effect and a quality assurance effect can be expected

Now, the interlabial pad according to the present invention will be described in detail by referring to the drawings.

[Basic Structure]

First, the configuration of an interlabial pad 1 according to the embodiment will

be described. The interlabial pad 1 according to the embodiment is formed comprising a main sheet body 2, a sub-sheet body 6, a mini sheet piece 14 attached on the sub-sheet body 6 on the opposite side to the body. Fig. 1 is a schematic perspective view showing the body side of the interlabial pad 1 according to the embodiment and Fig. 2 is a schematic perspective view showing the opposite side from the body side of the interlabial pad 1 according to the embodiment. ~~Fig. 3 is an illustration~~ Figs. 3(A)-(B) are illustrations showing other ~~embodiment~~ embodiments of the mini sheet piece 14 attached on the opposite side from the body side of the interlabial pad 1 according to the embodiment. Fig. 4 is a cross section of the interlabial pad 1 according to the embodiment taken along the line 1 - I in Fig. 1.

As shown in Fig. 1, on the body side to the body of the main sheet body 2, a long convex area 3 formed by crumpled portion generated by folding the main sheet body 2 is provided in the longitudinal direction on the main sheet body 2 roughly in the center in the lateral direction. Then, a substantially flat area 4 is continuously provided in the area spread on both sides of the long convex area 3 in the lateral direction. The main sheet body 2, as shown in Fig. 4, is formed as one body by bonding a surface side sheet 11 and a back side sheet 12 in a peripheral edge 15 so that an absorbent body 13 included in the above-described long convex area 3 is sealed inside.

Subsequently, the above-described sub-sheet body 6, as shown in Fig. 4, is formed as one body by bonding a surface side sheet 61 and a back side sheet 62 in a peripheral edge 65 so that an absorbent body 63 is sealed inside. It is preferable for the absorbent body 63 not to be sandwiched in the peripheral edge 65 where the sheets are bonded. For example, by bonding only the surface side sheet 61 and the back side sheet 62 and sealing the absorbent body 63 in the closed area in the peripheral edge 65, hardening of the peripheral edge 65 caused by sandwiching the absorbent body 63 in the peripheral edge 65 can be avoided. Thereby, more preferable wear felling can be achieved. The dimension of the absorbent body 63 may be about that of the interlabial pad 1 or, in order for the absorbent body 63 not to be sandwiched in the above-described peripheral edge 65, it may be provided smaller beforehand so as to be able to provide a gap of 2 to 10 mm from the contour of the interlabial pad 1.

The bonding of the surface side sheet 11 and the back side sheet 12 in the main

[Mini Sheet Piece]

Next, the attachment state of the mini sheet piece 14 will be described. In the embodiment, as shown in Fig. 2, the mini sheet piece 14 is bonded with the back side sheet 62 by the bonding area 17 in the outer edge of the back side sheet 62 and the area from the outer edge to the inside is not bonded. Hence, the mini sheet piece 14 is attached over the area from one side of the back side sheet 62 to the other side thereby forming a hollow part 7 to be a second finger insertion space over the area from one side to the other side.

In the embodiment, one of the sleeve portions 14b of the mini sheet piece is bonded with the back side sheet 62 in the lateral direction. However, it can be also prepared unbonded. In this case, the above-described hollow part 7 becomes a elongated space with both open ends (like a tunnel).

In the interlabial pad 1 according to the embodiment, the mini sheet piece 14 is attached so that the finger insertion opening 19B has an aperture large enough for the fingerbreadth in the direction of the finger nail width. Thereby, the flat-shaped fingertip may be inserted and its flat face may contact the sheet surface without being tilted against the sheet surface. In this respect, compared to an incontinence support pad of the related art (JP Patent Hei 6-506368), the easiness of finger insertion is remarkably improved. In other words, in the incontinence support pad of the related art, a finger opening 70 (code 76 in the above-described Application) is closed (see Fig. 26, which corresponds to Fig. 20 in the above-described Application) in the normal state. Therefore, first, a wearer inserts a finger in the direction at a right angle to the incontinence support pad (see Fig. 27, which corresponds to Fig. 22 in the above-described Application) and then turns the finger so that the finger cushion can be faced to the incontinence support pad side.

On the contrary, in the interlabial pad 1 according to the embodiment, unlike the incontinence support pad of the related art in which the aperture of the fingerbreadth is secondarily formed in the direction of the surface of the back side sheet, the finger insertion opening 19B which is suitable for finger insertion is primarily formed so as to be able to insert the finger naturally. Therefore, the wearer of the interlabial pad 1 can specify the direction of the finger insertion. As a result, the finger cushion naturally

detects the wearing point so that precise wearing of the pad between the labia can be more easily achieved.

Fig. 7 is a sectional cross section of a part of the interlabial pad 1 in the lateral direction taken out from the interlabial pad 1 for specifically describing the whole girth inside the second finger insertion opening 19B". In Fig. 7, the part unnecessary for describing the length of "the whole girth inside the second finger insertion opening 19B" is shown by an alternate long and short dash line. "The whole girth inside the second finger insertion opening 19B" is a distance denoted by "L" in Fig. 7.

The whole girth inside the above-described second finger insertion opening 19B is preferable to be 30 to 120 mm, and more preferable to be 40 to 80 mm. When the whole girth inside the above-described second finger insertion opening 19B is shorter than 30 mm, the second finger insertion opening itself becomes small causing a difficulty in putting the finger in and out. On the other hand, when it is longer than 120 mm, the interlabial pad 1 can not be fixed to the finger. Therefore, it becomes harder for the finger cushion to be surely in contact with the sheet surface, which causes a problem when wearing. Accordingly, the length "L" in the embodiment is about 40 mm.

Fig. 8 is an illustration showing the state where the mini sheet piece 14 attached on the interlabial pad 1 according to the embodiment has a length of 10% or more in the longitudinal direction. Figs. 9(A)-(C) illustrate the position of the nonbonded part in the back side sheet 6 of the mini sheet piece 14 attached to the interlabial pad 1 according to the present invention.

In the embodiment, as shown in Fig. 2, the nonbonded part of the mini sheet piece 14 and the back side sheet 62 is only one of the sleeve portions 14a which forms the second finger insertion opening 19B. However, the other sleeve portion 14b can be also left non-bonded. In this case, the length of the mini sheet piece 14 is preferable to be 10% or more in the longitudinal direction, more preferable to be 10 to 80%, and even more preferable to be 30 to 60%. By having the length as described, there is no chance for the finger once being inserted to the second finger insertion opening 19B to be slipped out therefrom or for the finger to play inside the hollow part 7. Therefore, the finger cushion can be kept facing the sheet surface of the back side sheet 62. Also, as shown in Fig. 8, it is clear that the direction of finger insertion can be provided in "A" direction. In regard to

rayon fiber and acetate fiber, and examples of synthetic fibers are a single fiber and a composite fiber with a sheath-core structure or the like made of polyolefin fiber, polyacrylonitrile fiber, polyester fiber, polyamide fiber, polyvinyl alcohol fiber, polyurethane fiber, nylon and the like. Especially for the nonwoven fabrics, web forming can be performed either by dry method (carding, spun bonding, melt-blown, air-laid and the like) or wet method, or a plurality of the methods may be combined to be used. Examples of bonding methods are spun lacing using columnar water flow, thermal bonding, and needle punching.

Among the materials, considering the liquid mobility from the inner face of the labia, chemical stimulation by an activator, and adhesion with the inner wall of the labia, it is preferable to laminate rayon with 1.1 to 4.4 dtex fineness and 7 to 51 mm fiber length by 40 to 80% of a total specific weight per unit area on the body surface side, and to laminate a mixture of rayon with 1.1 to 4.4 dtex fineness and 7 to 51 mm fiber length by 14 to 42% of a total specific weight per unit area and PET with 1.1 to 4.4 dtex fineness and 7 to 51 mm fiber length by 6 to 18% of a total specific weight per unit area on the clothing surface side. After laminating them so that the total specific weight per unit area of the two layers becomes 20 to 60 g/m², the fibers are entangled by water-flow interlacing treatment and then dried to prepare spun lace nonwoven fabric with the thickness of 0.13 to 0.50 mm. The spun lace nonwoven prepared as described is preferable. At this time, by mixing PET on the clothing side, bulkiness can be easily maintained even if the permeable sheet becomes wet. Therefore, adhesion between the inner wall of the labia can be maintained.

Examples of a perforated plastic sheet which can be used are an air sheet of thermoplastic resin such as polyethylene (PE), polypropylene (PP), and polyethylene terephthalate (PET), and a perforated foamed-material. Also, it is preferable to use it by making it milky by mixing a filler made of titanium oxide, calcium carbonate and the like within the range of 0.5 to 10 weight % if necessary. A perforated film obtained by forming perforation, thermal embossing, machine processing or the like on a thermoplastic film may be used. Furthermore, a composite sheet of the perforated film and nonwoven fabric may be used.

The material used for the absorbent body 13 and the absorbent body 63 may be

any material as long as it is capable of absorbing and holding a liquid (blood). However, it is preferable to use a single material or a mixture of the materials selected from the group comprising pulp, chemical pulp, rayon, acetate, cotton, particulate polymeric absorbent body, fiber polymeric absorbent body, and a composite fiber. The method by which the materials are formed to be the absorbent body is not limited, however, the method such as air-laid, melt-blown, spun lacing, or paper-making method is employed for an absorbent body to be formed into a sheet to be used. Also, cellulose foam, a continuous foam and the like of synthetic resin can be also used as the absorbent body. Furthermore, an absorbent body obtained by grinding and molding the above-described sheet and the foam can be used.

It is preferable for the absorbent body, although any material can be used as long as it is capable of absorbing and holding liquid (fluid), to be bulky, hard-to-be deformed, less chemically stimulant, and highly flexible to fit between the labia. Specifically, a nonwoven sheet in which, 50 to 150 g/m² of pulp selected from the range of the fiber length of 1 to 10 mm is laminated on the garment face side and, on the body face side, 150 to 250 g/m² of a mixture obtained by mixing 60 to 90% of rayon with 1.1 to 4.4 dtex fineness and 20 to 51 mm fiber length with 40 to 10% of natural cotton by this mixing ratio is laminated, which then to be formed into a sheet by dotted embossing to have 2 to 10 mm bulkiness, and more preferable to have 3 to 5 mm bulkiness. Thereby, liquid can be easily transmitted from the body face side to the garment face side resulting in the improvement of the absorbing and holding capacity. Furthermore, by providing a mesh spun lace nonwoven fabric of rayon with 1.1 to 4.4 dtex fineness and 25 to 51 mm fiber length by a specific weight per unit area of 15 to 40 g/m², the liquid transmitted from the body face side can be dispersed by the mesh spun lace to be induced to almost all over the region of the pulp layer. Therefore, more liquid can be effectively absorbed.

The material used for the back side sheet 12 of the main sheet body 2 and the back side sheet 62 of the sub-sheet body 6 are not specifically limited as long as it has a sheet-type structure such as a fabric, nonwoven fabric, or a plastic. However, examples of an impermeable material are an impermeable film mainly made of PE, PP or the like, a breathing resin film, and a material in which a breathing resin film is bonded to the back side of a nonwoven fabric such as a spun bond or spun lace on which water-repellent

processing is performed. Considering the degree of softness by which the wear feeling is not influenced, for example, a film obtained by a specific weight per unit area of 15 to 30 g/m² mainly using LDPE (low density polyethylene) is used.

By preparing the back side sheet 62 of the above-described sub-sheet body 6 using an impermeable material, blood held in the absorbent body 63 can be prevented from leaking out. Also, by preparing it using a wet permeable material, stuffiness can be decreased when wearing. Thereby, uncomfot felt by the wearers can be decreased when wearing. It is more preferable to reduce the contact ratio to decrease the friction drag value by embossing the above-described film to provide convex-shaped projections in order to, when the pad is worn between the labia, decrease the risk of the interlabial pad from being fallen off from the labia due to the high friction caused by the contact between the impermeable sheets, or with a pad used together, an underwear or the like.

It is preferable to select the material used for the mini sheet piece 14 considering the strength of the material so that it is not damaged when a finger is inserted. It is possible to select with no limitation a single material or the laminated material from the group comprising a nonwoven sheet, an elastic dilation nonwoven fabric, a film, a foam film, an elastic dilation film, a foam sheet, a tissue paper, and the like. A specific example is a film of 15 to 30 .mu.m thickness having an LDPE resin as the main component. Also, the mini sheet piece 14 can be prepared to have the tone of color, design, chroma which are different from those of the back side sheet 62 of the interlabial pad 1 by coloring or printing a design or the like in order for the wearer to be able to easily discriminate the mini sheet piece 14.

In order to effectively use the interlabial pad 1 according to the present invention, it is also effective to prepare the above-described mini sheet piece 14 to have a characteristic of stretching or elastic dilation in the lateral direction of the back side sheet 12 regardless of the finger size of the wearer.

In order for the mini sheet piece 14 to have a stretching characteristic, a stretching spun bond nonwoven fabric can be used in which the stress is 0.1 to 0.5 N/25 mm at the time of 5% stretching when being stretched at a constant speed by a stretching speed of 100 m/minute with a grip interval of 100 mm.

Also, in order for the mini sheet piece 14 to have an elastic dilation characteristic,

moisture (blood), the fabric is soluble in a large amount of water or water current.

The material is not specifically limited as long as it satisfies the above-mentioned conditions. However, the materials which can be used are shown below. First, a natural fiber and/or chemical fiber can be used for the fiber as a permeable material. Examples of the natural fiber are tissue, ground pulp, air laid pulp which is obtained by chemical-bonding a water soluble resin, and cotton. Examples of hydrophilic chemical fiber are rayon which is a regenerated cellulose, feeble rayon, and the like, and examples of synthetic fiber are the one obtained by performing hydrophilic processing on polyester, polypropylene, polyethylene, ethylene vinyl acetate copolymer and the like. Also, examples of synthetic biodegradable fiber is poly lactic acid, polybutylene succinate, and the like, and examples of a water soluble material are carboximethyl cellulose, polyvinyl alcohol, polyacrylonitrile and the like.

Especially, it is preferable to use the natural fiber such as pulp or cotton or biodegradable fiber such as rayon or poly lactic acid. It is also possible to use one of these materials alone or by mixing the materials by a predetermined combination to form a web or nonwoven fabric. Web forming of the synthetic degradable fabric such as poly lactic acid or polybuthylene succinate may be performed using a dry method, wet method or the like by carding, spun bonding, melt blow and air laid, or may be performed by a method in which a plurality of the methods are combined.

Examples of boding are spun lace by columnar water flow, thermal bonding, needle punching, and chemical bonding. Example of method for forming a water dispersible fiber is a method of forming a water soluble paper in which a fiber is formed into a sheet by a hydrogen bonding of fibers, and a water soluble paper in which a fiber is formed into a sheet by entangling.

In order to keep an excellent water dispersiblity, it is preferable to have the fabric length within the range of 2 to 51 mm, and more preferable to have it within the range of 2 to 10 mm. Furthermore, if the water dispersiblity and strength enough for not-causing damage are considered, it is desirable to select the fineness of the fiber (thickness) within the range of 1.1 to 4.4 dtex.

Also, it is preferable to have a specific weight per unit area of 20 to 60 g/m². The break strength (the break strength when constant-stretching at grip interval of 100 mm

and stretching speed at 100 mm/min) of the permeable material in both longitudinal and lateral direction are at least 800 mN/25 mm, and more preferable to be selected from the range of 1000 to 7000 mN/25 mm with the consideration of softness at the time of wearing.

A specific example of the permeable material is a wet forming spun lace nonwoven fabric prepared by mixing 5 to 10 mm of rayon fiber of 1.1 to 4.4 dtex and wood pulp at 90:10 to 70:30 weight ratio with a specific weight per unit area of 25 to 40 g/m² and the thickness of 0.2 to 0.5 mm. A plurality of pores may be provided on the permeable material. In this case, the pores may be formed to have a diameter within the range of 0.5 to 1.5 mm with the porous area ratio (rate of the porous area per unit area) within the range of 3 to 20%.

A natural fiber and/or chemical fiber can be used for the absorbent body 13 and the absorbent body 63. Examples of the natural fiber are tissue, ground pulp, air laid pulp which is obtained by chemical bonding water soluble resin, cotton, and the like. Examples of hydrophilic chemical fiber are rayon which is a regenerated cellulose, feeble rayon, and the like, and examples of synthetic fiber are the one obtained by performing hydrophilic processing on polyester, polypropylene, polyethylene, ethylene vinyl acetate copolymer and the like. Also, examples of synthetic biodegradable fiber are poly lactic acid, polybutylene succinate, and the like, and examples of a water soluble material are carboximethyl cellulose, polyvinyl alcohol, and polyacrylonitrile. Especially, it is preferable to use the natural fiber such as pulp, cotton, or the like, or biodegradable fiber such as rayon, poly lactic acid, or the like. It is also possible to use one of these materials alone or by mixing the materials by a predetermined combination. It is also possible to form a high absorbent polymer such as sodium alginate, amylum, starch, carboxymethyl cellulose into grains or fibers and mixing it with the high absorbent polymer and the like at a predetermined combination.

An example of the absorbent body 13 as described is a material prepared by enclosing wood pulp by laminating it with a specific weight per unit area of 150 to 500 g/m² to tissue and prepare it to the thickness of 2 to 10 mm by a pressing device. By mixing 5 to 30 g/m² of an absorbent such as starch with the above-mentioned absorbent body, it is possible to also improve the absorbance and holding ability of blood.

Examples of the impermeable material with biodegradability and/or water solubility are cellulose derivative such as methyl cellulose, hydroxyethyl cellulose, carboxymethyl cellulose, etc., water soluble polymer such as polyvinyl alcohol, sodium alginate, sodium poly acrylate, polyacrylic ether, polyvinyl pyrrolidone, and a copolymer of isobutylene and maleic anhydride, poly lactic acid, polybutylene succinate, starch, dextrin, etc.

These materials may be used alone or mixed by a predetermined combination to be formed into a film sheet. Furthermore, repellent such as silicone may be applied or mixed thereto or it may be formed by a laminate processing performed on a nonwoven fabric.

A specific example of the sheet is a film obtained by preparing polyvinyl alcohol with a specific weight per unit area of 20 to 50 g/m² and to which 0.5 to 5 .mu.m silicone or fluorine is applied at least on either side and, more preferably, on both sides.

Examples of the preferable material for the mini sheet piece 14 are polyvinyl alcohol film, and a laminated material of polyvinyl alcohol, tissue, etc.

As the applicable bonding, bonding by polyvinyl alcohol with water solubility or water dilatation characteristic, heat sealing, hydrogen bonding, etc. may be used alone or combined to be used as a bonding method.

Specific examples of the wrapping container made of a water soluble material or water dispersible material are a compound material obtained by laminating tissue with a specific weight per unit area of 15 to 40 g/m² and polyvinyl alcohol with a specific weight per unit area of 20 to 50 g/m² and applying silicone of 0.5 to 1 .mu.m on the polyvinyl alcohol side, a spun bond nonwoven fabric, etc. prepared with a specific weight per unit area of 15 to 40 g/m² mainly using poly lactic acid fiber.

[Size]

The length of the main sheet body 2 in the lateral direction on the appearance is preferable to be 10 to 60 mm, and more preferable to be 20 to 40 mm. When the length in the lateral direction is longer than 60 mm, the area which is not inserted between the labia is rubbed against the femoral region or the like of the wearer and the friction generated thereby exceeds the holding strength between the both labia so that the interlabial pad may fall off. Also, when the length in the lateral direction is shorter than 10 mm, the area

which can be inserted between the labia becomes small thereby reducing the contact area with the inner face of the labia. Thereby, there generates a risk of the interlabial pad being fallen off.

The above-described "appearance" means the distance between two points with the shortest length (V in Fig. 28). This is to carefully define the length since, in the manufacturing step, there may be a case where the length between the two points in a concave and convex shape is taken as the actual length (W in Fig. 28), that is, the distance between the two points in the state in which the concave and convex shape are unfolded to be flat.

On the other hand, the length of the main sheet body 2 in the longitudinal direction is preferable to be 50 to 150 mm, and more preferable to be 80 to 120 mm. When the length in the longitudinal direction is longer than 150 mm, friction generated by the substantial flat area 4 which is not inserted between the labia being rubbed against the underwear or a sanitary napkin exceeds the holding strength of the labia itself so that the interlabial pad 1 may fall off. Also, when the length in the longitudinal direction is shorter than 50 mm, the range of the area of main sheet body 2 which can be inserted between the labia becomes small thereby reducing the contact area between the labia and the main sheet body 2. Thereby, there generates a risk of the interlabial pad 1 being fallen off.

The length of the sub-sheet body 6 in the lateral direction on the appearance is preferable to be 10 to 60 mm, and more preferable to be 30 to 40 mm. When the length in the lateral direction is longer than 60 mm, the end of the substantial flat area 4 is rubbed against the femoral region of the wearer thereby generating friction. The generated friction exceeds the holding strength of the both labia so that the interlabial pad 1 may fall off. Also, when the length of the sub-sheet body 6 in the lateral direction is shorter than 10 mm, it becomes shorter on the appearance than the maximum value of the length of the unbonded part, which is not inserted between the labia, in the main sheet body 2 in the lateral direction. As a result, the range of the substantial flat area 4 in the lateral direction functioning to absorb blood which cannot be completely absorbed in the long convex area 3 of the main sheet body 2 becomes insufficient for covering the pudenda.

The above-described "appearance" means the distance between two points with

force of the adhesive (Fig. 21). A constant speed expansion tensile tester and a stainless plate of 80 mm.times.50 mm is required as the instruments used therein. As a preparation for the evaluation test, a test piece of a polyethylene film 36 in which an adhesive 37 is applied within the range of 25 mm in width and 50 mm in length is left for 30 minutes at a room temperature of 20.degree. C. beforehand. Subsequently, the polyethylene film 36 is put lightly over a stainless plate 35 with the width being overlapped and the adhesive 37 being in contact with the stainless plate 35, and a 2 kg-roller is applied one way. Then, it is left for 30 minutes at a room temperature of 20.degree. C.

The test sheet obtained as described is used, and the test condition is provided to be 70 mm chuck interval (grip interval) and 100 mm/min testing speed. In the separation force test of the adhesive, it is separated in the pulling direction B in Fig. 20 and, in the shearing force test of the adhesive, it is pulled in the pulling direction C in Fig. 21.

In the case where the forces are measured by the measurement method described above, considering the burden imposed on the skin of the wearer, it is preferable that the measurement value of the separation force to be 100 to 2000 mN/25 mm and that of the shearing force to be 2900 to 15000 mN/25 mm.

[Individual Wrapping]

When individually wrapping the interlabial pad 1 according to the present invention, it is preferable to prepare the pad so that a finger can be inserted to the finger insertion opening 19A or finger insertion opening 19B right after opening the wrapping container. For example, the pad may be wrapped anisotropic to the wrapping container so that the opening direction and the fingertip insertion direction become the same, or the mini sheet piece 14 for finger insertion can be positioned to be near the opening section of the wrapping container.

It is also preferable to wrap the interlabial pad 1 by folding it in such manner that the finger insertion opening 19A and the finger insertion opening 19B are naturally opened when opening the wrapping container. Thereby, the wearer can easily recognize the position of finger insertion. As a result, the interlabial pad 1 can be fitted more quickly and easily.

When folding the interlabial pad 1, for example, as shown in Fig. 22A, after tearing the opening section 41, the wearer with shallower labia depth can easily insert the

finger by folding it with the finger insertion opening 19A being the top face and, as shown in Fig. 22B, the wearer with the deeper labia depth can easily insert the finger by folding it with the finger insertion opening 19B being the top face.

Furthermore, by specifying the breaking direction of the opening section in accordance with the labia depth through providing a character or the like in the wrapping container 40, it can be also made easier for the wearer to insert the finger to the finger insertion opening suitable for her own labia depth. For example, the interlabial pad 1 is wrapped in the wrapping container 40 with the finger insertion opening 19A positioned near the opening section where a character meaning "shallow" is put, and the finger insertion opening 19B positioned near the opening section where a character meaning "deep" is put. Thereby, the wearer with the shallow labia depth can insert the finger easily from the finger insertion 19A by opening the wrapping container 40 from the opening section where a character meaning "shallow" is put as shown in Fig. 23A. Then, the wearer with the deep labia depth can insert the finger easily from the finger insertion 19B by opening the wrapping container from the opening section where a character meaning "deep" is put as shown in Fig. 23B.

[Other Applicable Embodiment of the Interlabial Pad]

The interlabial pad 1 according to the embodiment, as shown in Fig. 24, can be used together with an ordinal sanitary napkin 30. As for the wearing method, the interlabial pad 1 is fitted in between the labia and the sanitary napkin 30 is fitted to the underwear. By using it together with a sanitary napkin as described, the interlabial pad 1 of the present invention can be effectively used even on a occasion expecting a large quantity of blood.

Industrial Applicability

According to the present invention as described, a finger can be inserted to a finger insertion opening provided in an interlabial pad having a long convex area on the body side face. Thereby, the interlabial pad can be fixed and held by the fingertip so that the interlabial pad can be fitted in the appropriate position even in between labia where it is hard to be viewed.

Also, the above-described finger insertion opening is provided in two areas so that the wearer can select either one according to her own labia depth. In addition, the above-

described long convex area are flexibly deformed in accordance with the labia depth of the wearer thereby enabling a close wearing of the interlabial pad in between the labia regardless of the labia depth of the wearer. As a result, leak of blood can be drastically decreased.

ABSTRACT

An interlabial pad which can be worn closely fitted between the labia, and can be used irrespective of the depth of the labia of the user having a configuration by which a sure and sanitary wearing can be achieved. A sheet body including an absorbent body is provided to have a dual structure of a main sheet body and a sub-sheet body. A long convex area formed by bending the main sheet body is provided on the body side surface of the main sheet body so as to be inserted in between the labia. Furthermore, the interlabial pad is capable of double changeover by providing two finger insertion openings for holding the interlabial pad. A first finger insertion opening is formed between the main sheet body and the sub-sheet body and a second finger insertion opening is formed between the sub-sheet body and a mini sheet piece.

An interlabial pad includes main and sub-sheet bodies. Each of the sheet bodies has a water permeable surface sheet and either a water permeable or non-permeable backing sheet. The surface sheet and the backing sheet of each of the sheet bodies are bonded to each other enclosing an absorber for absorbing body fluid. The main sheet body has an elongated convex area having a hollow part with a substantially triangular shape in a lateral cross section, and two ends in the longitudinal direction. At least one of the two ends of the elongated convex area forms a finger insertion opening through which a finger is insertable into the hollow part. Each of longitudinal side edges of the main and sub-sheet bodies are bonded to each other, respectively.